

## SPECIES OF *NEORHODESIELLA* FROM CHINA (DIPTERA, CHLOROPIDAE)

XU Yan-Ling<sup>1</sup>, YANG Ding<sup>1\*</sup>, NARTSHUK Emilia P.<sup>2</sup>

1. Department of Entomology, China Agricultural University, Beijing 100193, China

2. Zoological Institute, Russian Academy of Sciences, 199034 St. Petersburg, Russia

**Abstract** Species of the genus *Neorhodesiella* Cherian from China is outlined. One species, *Neorhodesiella guangxiensis* sp. nov., is described as new to science. A key to four species of the genus from China is presented.

**Key words** Diptera, Chloropidae, *Neorhodesiella*, new species, China.

The genus *Neorhodesiella* Cherian belongs to the subfamily Rhodesiellinae (Cherian, 2002). It is easily identified by the following characters: scutellum wider than long, rounded in outline with convex disc (only very rarely as long as wide and with nearly flattened disc); *ap sc* and *sap sc* borne on very fine tubercles or warts; *1 dc* longer and stouter than other thoracic bristles except for *ap sc* (if very rarely *1 dc* a trifle shorter than *pa*, scutellum much wider than long); terminal sector of  $r_{4+5}$  usually distinctly bent forward apically, that of  $m_{1+2}$  straight or nearly straight; distiphallus greatly elongated, slender, arched and almost uniformly cylindrical; postgonites usually with sclerotized processes (Cherian, 2002).

Most species of *Neorhodesiella* were earlier included under *Rhodesiella*. 17 species have been known from the world. It is fairly abundant in the Oriental Region with 15 species while one species each occur in the Afrotropical and Palaearctic Regions (Cherian, 2002). In the present paper, the species of the genus *Neorhodesiella* from China are reviewed. The following 4 species are known to occur in China: *Neorhodesiella finitima* (Becker, 1911), *N. serrata* (Yang et Yang, 2003) comb. nov., *N. yunnanensis* (Yang et Yang, 1993) comb. nov., *N. guangxiensis* sp. nov. All the species are distributed in the Oriental China. A key to four species from China is presented. The specimens examined are deposited in the Entomological Museum of China Agricultural University, Beijing. The following abbreviations for bristles are used: *ap sc* – apical scutellar bristle, *sap sc* – subapical scutellar bristle, *dc* – dorsocentral bristle, *pa* – postalar bristle, *npl* – notopleural bristle.

### Key to species of *Neorhodesiella* from China.

1. Fore tibia black, basal and distal ends yellow; second sector of costa distinctly longer than third sector; crossvein r-m slightly proximad of middle of discal cell; surstylus spatulate, about 3 times as long as

wide in lateral view (Guangxi) ..... *N. guangxiensis* sp. nov.

Fore tibia wholly yellow; second sector of costa nearly as long as or slightly shorter than third sector; crossvein r-m nearly at middle or slightly distal of middle of discal cell; surstylus oblong, about 2 times as long as wide in lateral view ..... 2

2. Mid and hind tibiae black except for distal ends yellow; postgonite with serrate processes (Fujian) .....

..... *N. serrata* (Yang et Yang, 2003), comb. nov.

Mid and hind tibiae wholly yellow; postgonite without serrate processes ..... 3

3. Crossvein r-m nearly at middle of discal cell; surstylus constricted basally (Guangxi, Guangdong, Taiwan) .....

..... *N. finitima* (Becker, 1911)

Crossvein r-m slightly distal of middle of discal cell; surstylus not constricted basally (Yunnan) .....

..... *N. yunnanensis* (Yang et Yang, 1993), comb. nov.

### *Neorhodesiella guangxiensis* sp. nov. (Figs 1, 5–9)

**Diagnosis.** Tibiae black except for basal and distal ends yellow; tarsi yellow except for last tarsomere brownish yellow. Relative lengths of costal sections 2nd: 3rd: 4th = 10: 19: 8; crossvein r-m slightly proximad of middle of discal cell, opposite 0.45 of its length. Surstylus spatulate, about 3 times as long as wide in lateral view.

**Description.** Male. Body length 1.50 – 1.55 mm, wing length 1.25 – 1.30 mm.

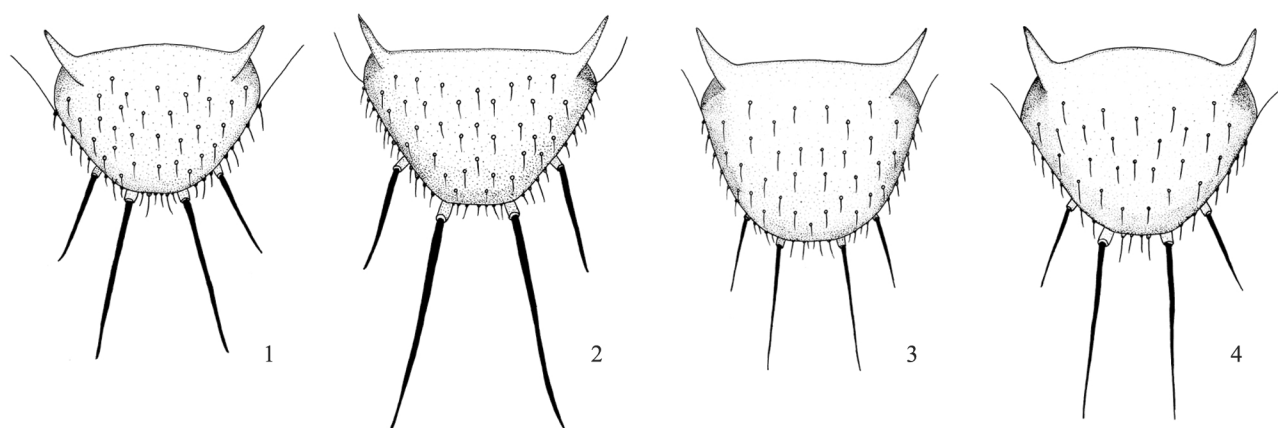
Head black, about 2 times as wide as long, in profile about 1.5 times as broad as long; frons black; frontal triangle polished black, much wider than long and its anterior extremity blunt. Hairs and bristles on head black. Antenna with basal 2 segments dark brown, 3rd segment yellow; arista blackish. Proboscis black; palpus black.

Thorax black. Hairs and bristles on thorax black, hairs short. 1 + 1 *npl*. Mesonotum weakly convex, about 1.2 times as wide as long; scutellum short, 1.4 times as wide as long, slightly convex on disc; 2 pairs of black sc present on small black tubercles; *ap sc* about 1.2 times as long as scutellum and 2 times as long as

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\* Corresponding author, E-mail: dyangcau@126.com

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Figs 1–4. Scutellum, dorsal view. 1. *Neorhodesiella guangxiensis* sp. nov. 2. *N. finitima* (Becker). 3. *N. serrata* (Yang et Yang). 4. *N. yunnanensis* (Yang et Yang).

*sap sc*; distance between tips of tubercles of 2 *ap sc* longer than that between those of *ap sc* and *sap sc*. Legs with coxae and femora almost black except for distal end of femora narrowly yellow; tibiae black except for basal and distal ends yellow; tarsi yellow except for last tarsomere brownish yellow. Hairs on legs mostly black, mid tibia with a black apical spur, about 0.65 times as long as its metatarsus; hind femur slightly thickened, about 1.9 times as broad as succeeding tibia at middle. Wing hyaline, about 2.2 times as long as wide, veins brownish yellow; relative lengths of costal sections 2nd:3rd:4th = 10:19:8; crossvein r-m slightly proximad of middle of discal cell, opposite 0.45 of its length;  $R_{4+5}$  and  $M_{1+2}$  medially parallel, but distally divergent;  $M_{1+2}$  almost straight basally. Halter yellow.

Abdomen black, basal 2 segments dark brown. Hairs on abdomen mostly black.

Male genitalia (Figs 5–9). Epandrium rather small, about 0.16 mm in width in dorsal view, with a wide dorsal notch; surstylus spatulate, about 3 times as long as wide and forecurved in lateral view; hypandrium U-shaped and concave medially; pregonite of a narrow plate, its distal end articulated with apical process of basiphallus; postgonite distally narrowed and incurved at basal 1/3; distiphallus strongly elongate almost in uniform width, roughly S-like in lateral view; phallapodeme with a distinct basal stalk.

Female. Body length 1.75 mm, wing length 1.37 mm.

Holotype male, China, Guangxi, Fusui (22.6°N, 107.9°E), 18 Aug. 2004, ZHANG Kui-Yan. Paratypes: 1 female, same as holotype; 1 male, China, Guangxi, Chongzuo, 20 Aug. 2004, ZHANG Kui-Yan.

Etymology. The species is named after the type locality Guangxi.

Remarks. The new species is similar to *Neorhodesiella yunnanensis* (Yang et Yang) comb. nov. from Yunnan, but may be separated from the latter by the tibiae black except for basal and distal ends yellow, the second sector of costa distinctly longer than the third sector, crossvein r-m slightly proximad of middle of discal cell and surstylus spatulate, about 3 times as long as wide in lateral view. In *N. yunnanensis*, the tibiae are wholly yellow, the second sector of costa is almost as long as the third sector, crossvein r-m is slightly distad of middle of discal cell, surstylus is oblong and about 1.9 times as long as wide in lateral view. The new species is also easily distinguished from it by the male phallic organ.

Distribution. China (Guangxi).

#### *Neorhodesiella finitima* (Becker) (Fig. 2)

*Meroscinita finitima* Becker, 1911: 92. Type locality: Taiwan.

*Rhodesiella finitima* (Becker, 1911): Kanmiya, 1987: 13.

*Neorhodesiella finitima* (Becker, 1911): Cherian, 2002: 242.

Diagnosis. Distance between tips of tubercles of 2 *ap sc* nearly equal to that between those of *ap sc* and *sap sc*. Tibiae wholly yellow. Relative lengths of costal sections 2nd:3rd:4th = 10:11:9; crossvein r-m nearly at middle of discal cell. Surstylus oblong, about 2 times as long as wide in lateral view.

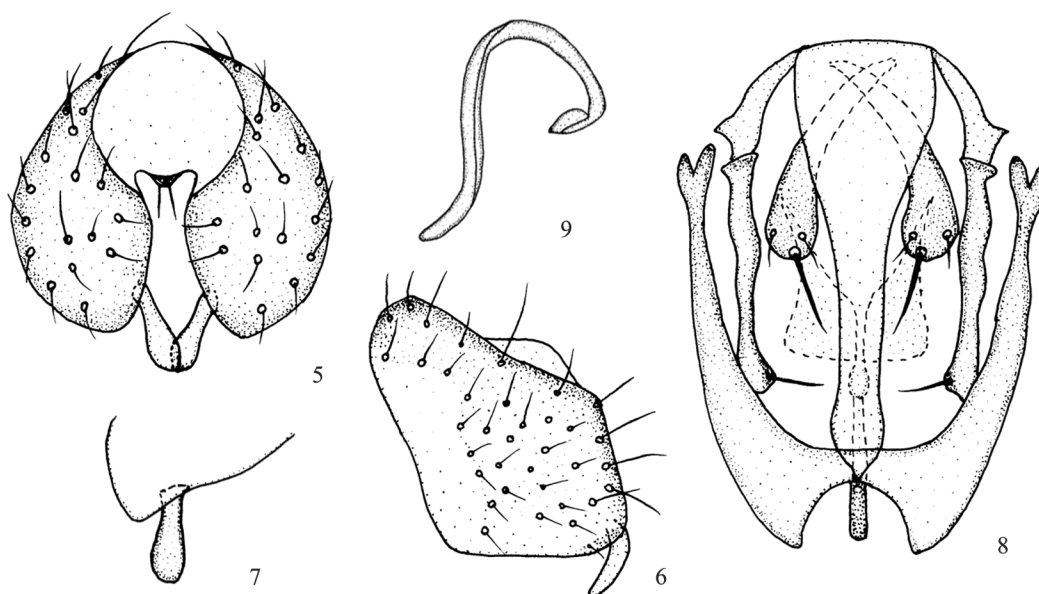
Specimens examined. 3 males, 3 females, China, Guangxi, Maoershan National Nature Reserve, 4 May 2004, YANG Ding; 5 males, 7 females, China, Guangdong, Ruyuan, Nanling National Nature Reserve, 8 May 2004, YANG Ding.

Distribution. China (Guangxi, Guangdong, Taiwan).

#### *Neorhodesiella serrata* (Yang et Yang), comb. nov. (Fig. 3)

*Rhodesiella serrata* Yang et Yang, 2003: 529. Type locality: Fujian.

Diagnosis. Fore tibia wholly yellow, mid and hind tibiae black except for distal ends yellow. Relative lengths of costal sections 2nd:3rd:4th = 9:12:10;



Figs 5 - 9. *Neorhodesiella guangxiensis* sp. nov., male. 5. Epandrium, posterior view. 6. Epandrium. 7. Surstylus. 8. Hypandrium and phallic complex, ventral view. 9. Distiphallus. 6 - 7, 9. Lateral view.

crossvein r-m slightly distad of middle of discal cell, opposite 0.57 of its length. Surstylus weakly narrowed distally and its extremity blunt. Postgonite distally narrowed, with serrate processes.

Specimen examined. Holotype male, China, Fujian, Gulangyu, 25 Nov. 1974, YANG Ji-Kun.

Distribution. China (Fujian).

***Neorhodesiella yunnanensis* (Yang et Yang), comb. nov. (Fig. 4)**

*Rhodesiella yunnanensis* Yang et Yang, 1993: 220. Type locality: Yunnan.

Diagnosis. All tibiae and tarsi yellow; relative lengths of costal sections 2nd:3rd:4th = 10:9:6; crossvein r-m slightly distad of middle of discal cell, opposite 0.56 of its length. Surstylus small, about 1.9 times as long as wide in lateral view.

Specimen examined. Holotype male, China, Yunnan, Tengchong, 26 Apr. 1981, YANG Ji-Kun.

Distribution. China (Yunnan).

## 中国新锥秆蝇属种类（双翅目，秆蝇科）

徐艳玲<sup>1</sup> 杨 定<sup>1\*</sup> NARTSHUK Emilia P.<sup>2</sup>

1. 中国农业大学昆虫学系 北京 100193

2. Zoological Institute, Russian Academy of Sciences, 199034 St. Petersburg, Russia

**摘 要** 对我国新锥秆蝇属的种类进行研究，记述 1 新种，即广西新锥秆蝇 *Neorhodesiella guangxiensis* sp. nov.，并编制分种检索表。模式标本保存在中国农业大学昆虫博物馆。

广西新锥秆蝇，新种 *Neorhodesiella guangxiensis* sp. nov. (图 1, 5~9)

**关键词** 秆蝇科，新锥秆蝇属，新种，中国。

中图分类号 Q969.44

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## REFERENCES

- Becker, T. 1911. Chloropidae, eine monographische Studie, III. Teil. Die indo-australische Region. *Annales Musei Nationalis Hungarici*, 9: 35 - 170.
- Cherian, P. T. 2002. Fauna of India and the adjacent countries-Diptera Vol. IX. Chloropidae (Part one). Published-Director, Zoological Survey of India, Kolkata. xvi + 368 pp.
- Kanmiya, K. 1987. A study on the genus *Rhodesiella* Adams from Taiwan (Diptera: Chloropidae). *Sieboldia* (Suppl.): 11 - 30.
- Yang, D and Yang, C-K 1993. Notes on new species of *Rhodesiella* from China (Diptera: Chloropidae). *Acta Entomologica Sinica*, 36 (2): 219 - 222.
- Yang, D and Yang, C-K 2003. Diptera, Chloropidae. In: Huang, B-K (ed.), Fauna of Insects in Fujian Province of China, Vol. 8. Fujian Science and Technology Press, Fuzhou. pp. 527 - 534.

新种与 *Neorhodesiella yunnanensis* (Yang et Yang) 近似，但足胫节黑色且两端黄色，前缘脉第 2 段明显长于第 3 段。

正模 ♂，广西扶绥，2004-08-18，张魁艳采。副模：1 ♀，同正模；1 ♂，广西崇左，2004-08-20，张魁艳采。

词源：新种种名源自模式产地广西。

\* 通讯作者，E-mail: dyangcau@126.com